7.4. KAHUKU TRAINING AREA (KTA)

7.4.1. General Description.

a. Location and Size. The Kahuku Training Area (KTA) is situated on the slopes of the northern end of the Koolau Mountain Range, approximately 18 road miles from Schofield Barracks. The area consists of 3806 hectares (9,406 acres) of which 10 hectares (25 acres) are owned in fee. Seven hectares (18 acres) are Easement/License/Permit and the Army leases 3789 hectares (9,363 acres) from the State of Hawaii (465) and Campbell Estates (3320).

b. Military Land Use. KTA is the largest contiguous ground-maneuver training area on Oahu. The southern (uphill) portion lies adjacent to the Kawailoa Training Area and is characterized by the same rugged, densely vegetated terrain. Only the northern region contains an area suitable for maneuver. This portion contains rolling grass and brush covered terrain. The entire area is compartmentalized by several gullies that are oriented south to north.

c. Training Capabilities.

(1) The Campbell Estate lease agreement prohibits live-fire and tracer ammunition. Blank ammunition and limited pyrotechnics are permitted. Aerial pyrotechnics are not allowed anywhere in KTA. The State lease allows small arms up to .50 caliber and no tracer or incendiary ammunition. Three point five inch rockets or similar size weapons may be used with inert rounds. Although live-fire is authorized on State land, live-fire operations have not been conducted in the Kahukus since the lease was signed in 1964. Implementation of SBCT will include live-fire training at KTA that will be limited to short range training ammunition.

(2) KTA is capable of accommodating varying scenarios supporting infantry battalion ARTEP missions. Much of the terrain is rugged and ill suited for large-scale field exercises. However, the area is excellent for mountain and jungle warfare training. It is also used for air support training with both fixed and rotary wing aircraft.

d. Climate. The climate of the northern Koolau Loa District is drier and windier than the southern portion. The northern portion receives less rainfall that other windward areas of the island. This condition is primarily due to the lower mountains that do not trap as much of the moisture-rich northeastern trade winds. The trade winds pass over the area, dropping less moisture on the windward slopes than the higher mountains to the south.

(1) Rainfall. Average annual rainfall with KTA varies from 102cm (40 inches) on the coastal plain to about 381cm (150 inches) at the crest of the Koolau Range. Data from the meteorological station, located at 10m (25 ft) above sea level, indicate the coastal plain receives between 102 and 127cm (40 and 50 inches) annually, with the majority of precipitation occurring between November and March (wet season) and the least between June and September (dry season).

(2) Temperature. Temperatures vary with recorded monthly lows between 9° C (48º F) (night) to 32.7° C (91º F) (day) in January and recorded monthly highs between 12.8° C (55º F) (night) and 35° C (95º F) (day) in October.

(3) Relative Humidity. Average relative humidity data was gathered from the KTA RAWS station located near the Range Control building for the period June 2000 to June 2002. Average RH for this period was 70%.

(4) Wind.

(a) Surface winds are predominately northeastern trade winds. The trades are generally more persistent in summer than winter, and are often stronger in the afternoon than in the morning or at night. Between October and April, the winds may shift and become southern, southwestern, or northwestern winds that precede cold fronts. More turbulent winds can be expected anywhere there are topographical high points.

(b) The windiness of the coastal zone and unprotected upland slopes is considered to be above average. Wind in the area averages between 18-20 knots airspeed, making the area one of the windiest on Oahu.

e. Topography. KTA ranges in elevation from near sea level along the inland portion of the coastal plain to 753m (1,860 ft) in the uplands along the crest of the Koolau range. It is composed of a narrow coastal flat adjacent to upraised limestone cliffs and relatively short, narrow valleys that quickly become rugged and steep a short distance inland. Topography within KTA varies from nearly level coastal plains to nearly vertical bluffs along the Kahuku escarpment and within steeper portions of the many stream drainage basins. The upland areas consist of dissected stream drainage basins and moderate slope lands, with slopes ranging from 3 to 25 percent or more.

7.4.2. Vegetation Fuels Classification.

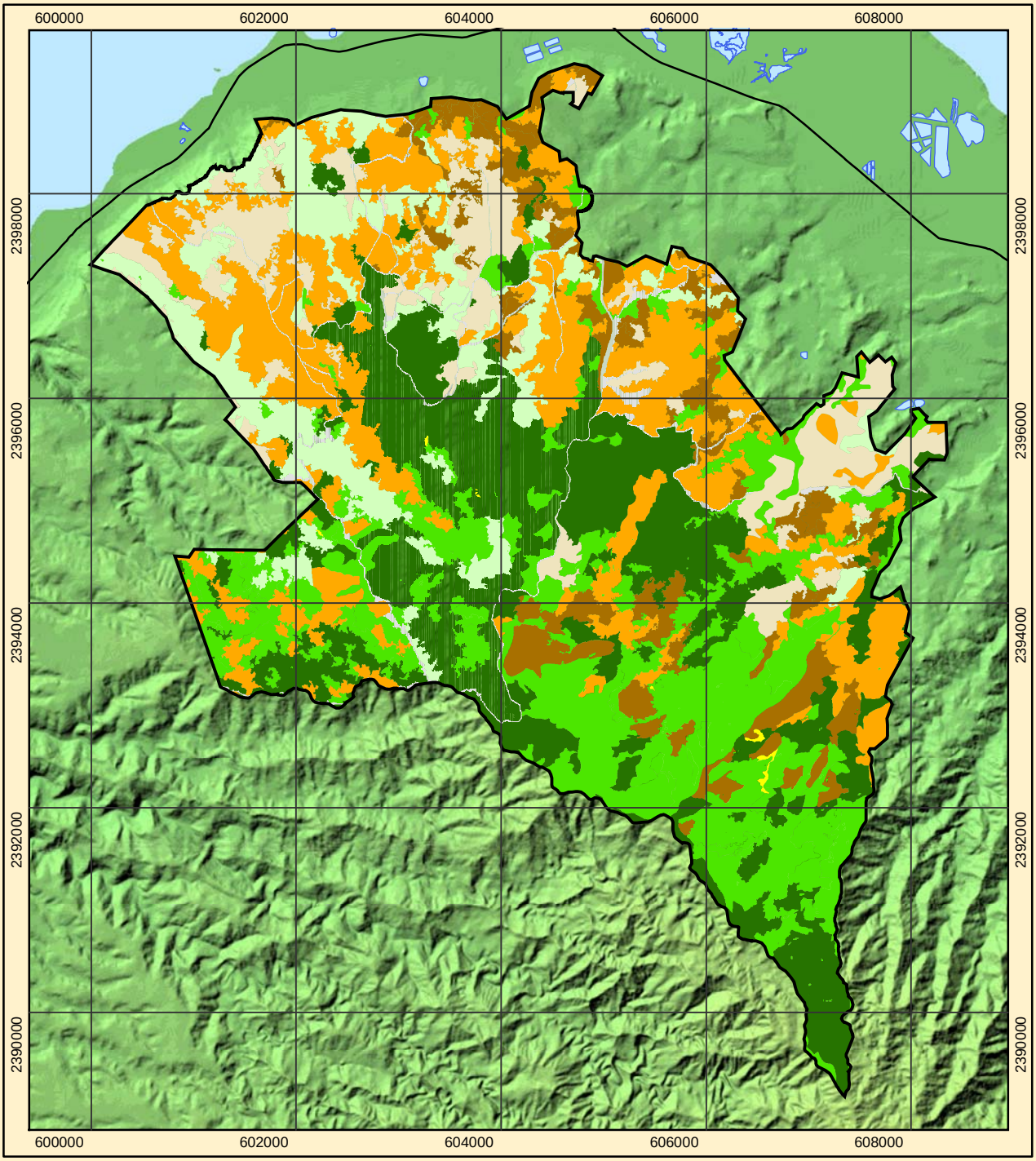
The wildland fire fuel types found at KTA have been categorized into eight classes (Figure 7 and Table 7.4.1). These classes were derived from the National Forest Fire Laboratory (NFFL) fuel behavior models as defined by Anderson (1982). For a full description of Oahu fuel types and their derivation see Section 3.5.

Table 7.4.1
Fuel Types at KTA

Fuel Type	*Fuel Model*	*Vegetation Classifications Included (Genus only)*
Short Alien Grassland	NFFL 2	*Andropogon*
Tall Alien Grassland	Guinea Grass Custom	*Leucaena/Panicum, Melinis/Panicum, Panicum*
Eucalyptus Forest	NFFL 10	*Eucalyptus, Melaleuca*
Ironwood Forest	NFFL 9	*Casuarina*
Mixed Forest	NFFL 8	*Metrosideros/Acacia koa/Dicranopteris*
Christmas Berry Shrublands	NFFL 5	*Schinus*
Kukui Forest	Kukui Custom	*Aleurites*
Developed/Denuded	None	*Agriculture, Urban Development, Bog, Open Water, Roads*

Kahuku Training Area
Fuels

Figure 7



1:60,000

0 500 1,000 Meters

0 0.5 1 Mile

N

Legend

Fuels
- Christmas Berry Shrublands
- Developed/Denuded
- Eucalyptus Forest
- Ironwood Forest
- Kukui Forest
- Mixed Forest
- Short Alien Grassland
- Tall Alien Grassland

- Installation Boundary
- Surface Water Body
- Roads

Data Source: Center for Environmental Management of Military Lands 2003
IKONOS 4 meter Multispectral Imagery

7.4.3. Fire History for KTA.

Records indicate that there have been 16 fires at KTA since 1996. These fires burned less than 121 hectares (300 acres) total. A Single fire of 101 hectares (250 acres) in the late 90's in training area C-2 accounted for 85% of the recorded acreage burned. About half of the fires started in August, but there is no clear pattern in the time of ignition. A number of different pyrotechnic devices, including smoke grenades, simulators, and star clusters, as well as blanks were the ignition sources.

7.4.4 Resource Protection.

a. Biological Sensitive Areas (BSA).

(1) Seven (7) native natural communities have been identified at KTA, none of which are considered rare (See Figure 8). Vegetation in the area is mixed and includes species typical of dry lowland and wet upland areas. Post-European contact land alterations, including sandalwood trade, ranching, and pineapple and sugarcane cultivation, have resulted in much of the area being dominated by introduced species such as various range grasses and guava. Pineapple and sugarcane are still grown in coastal areas bordering KTA. Upland sections of KTA within the forest reserves still contain native vegetation, including 'o'hia and hapu'u tree ferns. Valleys and gulches are dominated by introduced species, although some native vegetation is still present in these areas.

(2) Much of the uplands of KTA have been designated as BSAs, though the majority of the area covered by this designation falls into the BSA-3 category. There are five areas designated as BSA-2, mostly in the uplands of the training area. There are no BSA-1 areas within KTA.

b. Protected Species.

(1) Four endangered plant taxa that have been identified at KTA (Table 7.4.3).

(2) The USFWS has identified several threatened and endangered species that are known to inhabit the area in and around KTA . Table 7.4.2 lists the species identified at KTA and listed by USFWS

c. Cultural Resources.

(1) Forty-three cultural sites have been identified within KTA. Areas of KTA with a high probability for archaeological resources are closest to the coast, and could contain permanent habitation deposits and religious sites. Areas with moderate probability of containing irrigated or dry land agricultural sites are along stream-eroded gulches and in the lower cultivable flatlands. These areas are seldom used for maneuver training events.

(3) Some of the archeological sites identified in KTA would be considered significant under Criterion D of the NHPA as resources that "have yielded, or may likely to yield, information important in prehistory or history." In addition, religious sites identified in KTA could also be considered significant due to their cultural importance to native Hawaiians.

d. Wildfire Prevention Analysis

(1) Two wildfire areas have been designated based on the location of the most commonly used training areas, and existing roads. Each area was assigned an ignition potential, hazard, and value based upon the best currently available information (see Section 4.2.6 for further information on wildfire prevention analyses). The resulting Pre-Suppression Priority map (Fig. KTA-3) shows that the western half of KTA is at highest risk.

Unit A	-		
Ignition	-	High	Significant military activity, pyrotechnics authorized, no live-fire
Hazard	-	High	Areas of heavy, flammable fuels, little or no compartmentalization
Value	-	High	Many federally listed species
Unit B	-		
Ignition	-	High	Significant military activity, pyrotechnics authorized, no live-fire
Hazard	-	High	Areas of heavy, flammable fuels, little or no compartmentalization
Value	-	Low	No federally listed species
Unit C	-		
Ignition	-	High	Significant military activity, pyrotechnics authorized, no live-fire
Hazard	-	High	Areas of heavy, flammable fuels, little or no compartmentalization
Value	-	Low	No federally listed species
Unit D	-		
Ignition	-	Moderate	Some military activity, but less than areas B1, B2, and C2
Hazard	-	Moderate	Alien species predominate, but no large grassy areas
Value	-	Low	No federally listed species
Unit E	-		
Ignition	-	High	Increased activity with SBCT
Hazard	-	Moderate	Small grassy areas, higher moisture than areas A through C
Value	-	Low	No federally listed species
Unit F	-		
Ignition	-	Moderate	Some military activity, but reduced from high traffic areas
Hazard	-	Moderate	Alien species predominate, but no large grassy areas
Value	-	Low	No federally listed species
Unit G	-		
Ignition	-	Low	Very little military training
Hazard	-	Low	High moisture regime, vegetation not conducive to fire
Value	-	Low	No federally listed species
Unit H	-		
Ignition	-	Low	Very little military training, no vehicles, little foot traffic
Hazard	-	Low	Very high moisture regime, vegetation is wet and generally will not carry fire
Value	-	High	Many federally listed species

(2) By assigning values of 0, 1, and 2 to the low, moderate, and high designations respectively, and adding the values for ignition potential, hazard, and value, a priority level for each area has been determined:

Table 7.4.2
KTA Pre-Suppression Priority

Map Label	*Training Areas Included**	*Pre-Suppression Priority*
Unit A	A1, A2, A3, B1, B2, C2	6
Unit B	A1, B1	4
Unit C	B1, B2, C2	4
Unit E	C1	3
Unit D	C1	2
Unit F	C1, D1	2
Unit H	C1, D1, D2	2
Unit G	D1	0

*Pre-suppression priority areas may cover all or only a portion of training areas.

7.4.5. Fire Protection.

a. Firebreak System. There are no existing firebreaks at KTA, though there are a number of existing roads that will serve as fire control lines during fire suppression. These roads will not be kept at firebreak standards and will only be maintained to the extent necessary for vehicle traffic. Standards/requirements applying to both firebreaks and fuelbreaks are established in Section 4.3 of this IWFMP:

b. Fuels Modification. Fuel modifications by mechanical crushing, chemical herbicide, and prescribed burning techniques (where applicable) shall be utilized whenever possible and necessary. Where it is not possible to crush and/or prescribed burn, selective clearing and removal with hand labor will be considered. There are no plans for fuels modifications at KTA.

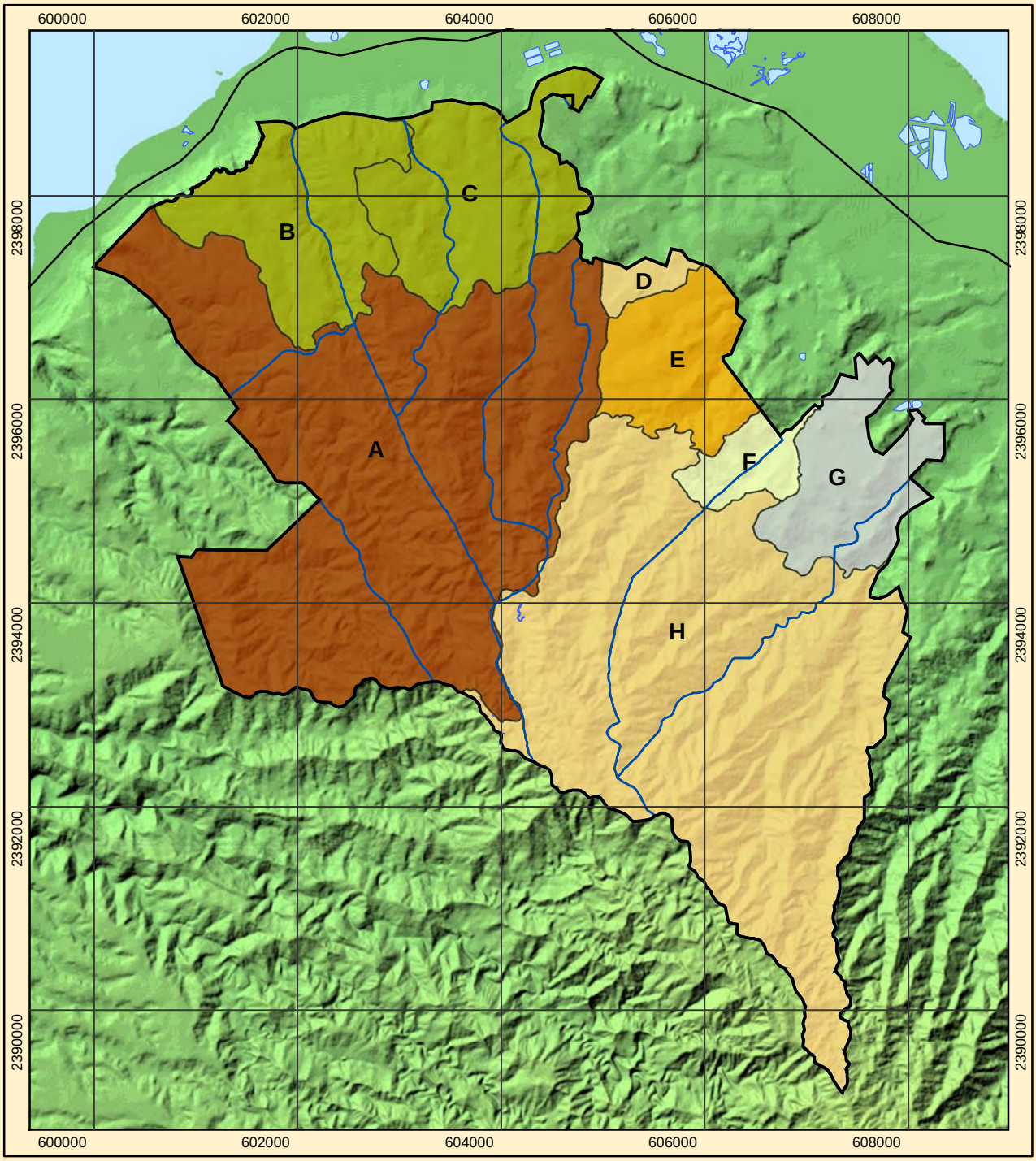
7.4.6 Project Budget FY 03 to 05*

PROJ/FEWR NO.	PROJECT TITLE	EST COST (x $1000)	FUNDED BY	FY
TA100183J	Construct New KTA Dip Pond	**70**	DPW TCCC	O5
TA100203J	Procure 2 New Fire Vehicles for KTA	**150**	IFSO	O4
TA100213J	Fire Access Road Maintenance KTA	**25**	DPW TCCC	O4
	Total	**263**		

*See Annex I for the sustainment budget

Kahuku Training Area
Pre-Suppression Priority

Figure 8



1:60,239

0 500 1,000 Meters

0 0.5 1 Mile

Data Source: Center for Environmental Management of Military Lands 2003

Legend

Pre-Suppression Priority
- None
- Low
- Moderate
- High
- Very High

Installation Boundary
Training Areas
Surface Water Body
Primary Roads

Table 7.4.3
Federally Listed Endangered and Threatened Species
At Kahuku Training Area*

Status	Hawaiian / Common Name	Scientific Name
PLANTS:		
Endangered	haha, ‘ohawai	Cyanea koolauensis
Endangered	Nioi	Eugenia koolauensis
Endangered	Nanu, na’u	Gardenia mannii
Endangered	`Ohe`ohe	Tetraplasandra gymnocarpa
ANIMALS:	**None**	

*According to Biological Assessment for Endangered Species Act, Section 7 Consultation on Routine Military Training and Transformation of the Second Brigade to a Stryker Brigade Combat Team, 25th Infantry Division (Light), U.S. Army Hawaii. Various Sites, Island of Oahu. 21 March, 2003.